

**Staff Summary
Method 2A Application**

**White Energy: Plainview Bioenergy, LLC
Corn and Sorghum Ethanol
(Pathway Codes: ETHC101, ETHG015, and ETHG016)**

Deemed Complete Date: December 2, 2014
Posted for Comments Date: February 5, 2015
Certified Date: February 16, 2015

Plant Summary

White Energy produces corn and sorghum ethanol at its Plainview Bioenergy, LLC (Plainview) plant in Plainview, Texas. The plant is permitted to produce 120 million gallons of ethanol annually. The primary feedstock used at the Plainview plant is corn from the Midwest, while the secondary feedstock is sorghum obtained locally—mostly from within Texas. Although the plant is capable of producing modified and dry distillers' grains with solubles (DGS), it is also able to sell wet DGS into the nearby livestock feed markets. Plainview's wet DGS averages 65 percent moisture content, by weight. White Energy has applied for prospective certification of corn and sorghum ethanol pathways in which no DGS is dried. These pathways will be based on plant operational data covering the 12-month period from December 2011 through November 2012—a period in which, according to the applicant, no DGS drying occurred. The Plainview plant consumes natural gas and electricity from the local grid. The greenhouse gas (GHG) emissions associated with the electricity used at the plant were estimated using the electrical generation energy mix from the SPSO sub-region of the U.S. Environmental Protection Agency's Emissions and generation Resource Integrated Database (eGRID).¹ The Plainview plant ships ethanol to California by rail.

Carbon Intensity of Ethanol Produced

On December 11, 2010, Plainview applied for twelve Method 2A ethanol fuel pathways under the California Low Carbon Fuel Standard (LCFS). Those pathways were certified on January 19, 2011.² In this application, White Energy is seeking prospective certification of three pathways which will replace four of Plainview's 12 certified pathways. The four mixed corn and sorghum pathways to be replaced are the following: ETHGC013, ETHGC016, ETHGC019, and ETHGC022.

White Energy is applying for certification of the three pathways described in this summary under the Method 2A provisions of the LCFS regulation. The reference

¹ U.S. Environmental Protection Agency, 2014. Emissions and Generation Resources Integrated Database (eGRID); Eighth Edition 2009, Version 1.0: <http://www.epa.gov/cleanenergy/energy-resources/egrid/>

² White Energy. Method 2B application for sorghum and corn ethanol pathways; Plainview Plant. January 19, 2011: <http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/we-plv-ncbi-011211.pdf>.

pathway for White energy’s corn ethanol pathway is the Midwest dry mill, wet DGS, natural gas pathway (ETHC008) with a CI of 90.1 gCO₂e/MJ. The sorghum reference pathway is the Midwest, dry mill, wet DGS, natural gas pathway (ETHG002) with a CI of 85.81 gCO₂e/MJ. Although a Method 2A pathway must be very similar to its reference pathway, it must achieve at least a five gram CO₂e/MJ CI improvement over the reference pathway.³ Plainview’s pathways improve upon their reference pathways by more than the requisite five grams of CO₂e/MJ. The only difference between the two sorghum-based pathways is the source of the sorghum used: Sorghum from fields requiring soil pH regulation through lime applications enters the ethanol production process with a CI reflecting the GHG emissions associated with the production and use of that lime. Sorghum from fields not requiring lime applications enters the ethanol production process without a CI increment reflecting lime use.

The following table summarizes the carbon intensities of the three Plainview pathways, as calculated by White Energy.

Proposed Lookup Table Entries

Fuel	Pathway Identifier	Pathway Description	Carbon Intensity Values (gCO ₂ e/MJ)		
			Direct Emissions	Land Use or Other Indirect Effects	Total
Ethanol from Corn	ETHC101	2A Application*: Midwest Corn; Dry Mill; Wet DGS; NG	51.40	30	81.40
Ethanol from Sorghum	ETHG015	2A Application*: Midwest Sorghum; Dry Mill; Wet DGS; Default Lime; NG	49.05	30	79.05
	ETHG016	2A Application*: Midwest Sorghum; Dry Mill; Wet DGS; No Lime; NG	47.83	30	77.83

* Specific Conditions Apply.

Operating Conditions

Operations at the Plainview plant will be subject to the following conditions designed to ensure that the CI of the Plainview pathways remains at or below the values appearing in the above table. In order for White Energy to sell ethanol in California under the CIs appearing in the table above, these conditions must be met for every gallon sold.

³ In the LCFS regulation, this 5 gCO₂e/MJ threshold is referred to as the “substantiality requirement.”

1. White Energy has provided staff with operational data covering the one-year period between December 2011 and November 2012—a period during which, according to the applicant, only wet DGS was produced. Records covering a total of two years are required for LCFS Method 2 pathway applications. Staff is able to prospectively certify applications, however, on the condition that the applicant submits a full two-year data record. White Energy will, therefore, submit energy consumption records no less frequently than every six months, until staff is in receipt of records covering a full two years of operations at its Plainview plant. Those records shall include complete data on total electricity and natural gas consumption, total DDGS, MDGS, and WDGS produced, DGS moisture content, and complete gas meter readings for each dryer. Gas meter readings must be specifically associated with DDGS and MDGS production records. If these records indicate that one or more of the certified CIs shown in the above table are lower or higher than the actual CIs, staff may adjust the certified CI to reflect actual operations at the Plainview plant.
2. No conditions are placed on the amounts of electricity (Btu/gal) and natural gas (Btu/gal) consumed and the ethanol yield (in gallons of ethanol per bushel of corn, or per bushel of sorghum) at the Plainview plant, so long as the CIs reported in the above table are not exceeded. For purposes of determining compliance with this operating condition, the plant's CI will be calculated based on data from the most recent 12 months of operation, excluding brief periods of abnormal operations, such as planned maintenance or unpredictable, unavoidable, and uncontrollable force majeure events. The plant's thermal and electrical energy use, and ethanol yield values are classified by the applicant as confidential business information.
3. The certification granted in this document extends only to ethanol production associated with 100 percent wet DGS. If WDGS is produced while either DDGS or MDGS (or both) is also being produced, gas flowmeter data will be used to quantify the gas used for DGS drying. This gas consumption will be excluded from the calculation of the CI of the WDGS-associated ethanol. Ethanol and DGS yield data will be used to calculate the number of qualifying WDGS-associated gallons. Ethanol gallons associated with MDGS and DDGS can be sold in California under the dry DGS reference pathways for both corn and sorghum until White Energy develops the necessary pathways. This operating condition applies equally to Plainview's corn and sorghum pathways.
4. For gallons sold under ETHG016, no more than two percent of the feedstock sorghum used to produce ethanol at the Plainview plant can be grown on fields on which lime (or other pH-management soil conditioner) has been applied. Sorghum grown in the counties in the immediate vicinity of the Plainview plant can be used to produce ethanol under the ETHG016 FPC, so long as it is grown on soils with pH values equal to or greater than 5.0. The names of the counties in which these fields occur are classified by the applicant as confidential business information.

5. Upon certification of the three prospective fuel pathways (ETHC101, ETHG015, and ETHG016) appearing in the table above, fuel pathways ETHGC013, ETHGC016, ETHGC019, and ETHGC022 will be deactivated in the LCFS Reporting Tool and Credit Bank & Trading System, and will no longer be available for reporting.

Staff Analysis and Recommendations

Staff has reviewed White Energy's Plainview plant application, and finds the following:

- Staff has replicated, using the CA-GREET1.8b spreadsheet, the carbon intensity values calculated by the applicant for the Plainview plant's three pathways;
- White Energy has provided documentation for the Plainview plant's energy use, feedstock use, and ethanol production levels; and
- Staff has concluded that the plant's energy consumption is not likely to exceed the energy use values specified in White Energy's Method 2A application.

On the basis of these findings, staff recommends that White Energy's application for three Method 2A ethanol pathways be certified.